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L1	9	((detect\$4 signal\$4) with (expansion plug-in card coupl\$4 attach\$4 insert\$4)) and ((start\$4 load\$4 execut\$4) same ((first and second) near4 phase)) and ((user near interface) with component software module)).clm.	US-PGPUB	OR	OFF	2007/05/26 16:50
L2	0	((detect\$4 signal\$4) with (expansion plug-in card coupl\$4 attach\$4 insert\$4)) and ((start\$4 load\$4 execut\$4) same ((first and second) near4 phase)) and ((user near interface) with component software module)).ab.	US-PGPUB	OR	OFF	2007/05/26 16:50
L3	113	((detect\$4 signal\$4) with (expansion plug-in card coupl\$4 attach\$4 insert\$4)) and ((start\$4 load\$4 execut\$4) same ((first and second) near4 phase)) and ((user near interface) with component software module)) and ((card board) with (plug\$3 coupl\$4 attach\$4 insert\$4))	US-PGPUB	OR	OFF	2007/05/26 16:51
L4	0	3 and ((detect\$4 signal\$4) with (expansion plug-in card coupl\$4 attach\$4 insert\$4)) and ((start\$4 load\$4 execut\$4) and ((user near interface) with component software module)) and ((card board) with (plug\$3 coupl\$4 attach\$4 insert\$4))).clm.	US-PGPUB	OR	OFF	2007/05/26 16:52

EAST Search History

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L5	0	3 and ((UI "user interface" graphic) near4 (software component module))same (first with (start\$3 load\$3)) same (second with (start\$4 load\$4))	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2007/05/26 16:55



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Terms used

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Relevance scale

1 [Fast detection of communication patterns in distributed executions](#)

Thomas Kunz, Michiel F. H. Seuren

November 1997 **Proceedings of the 1997 conference of the Centre for Advanced Studies on Collaborative research CASCON '97**

Publisher: IBM Press

Full text available: [pdf\(4.21 MB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

Understanding distributed applications is a tedious and difficult task. Visualizations based on process-time diagrams are often used to obtain a better understanding of the execution of the application. The visualization tool we use is Poet, an event tracer developed at the University of Waterloo. However, these diagrams are often very complex and do not provide the user with the desired overview of the application. In our experience, such tools display repeated occurrences of non-trivial commun ...



2 [The elements of nature: interactive and realistic techniques](#)

Oliver Deussen, David S. Ebert, Ron Fedkiw, F. Kenton Musgrave, Przemyslaw Prusinkiewicz, Doug Roble, Jos Stam, Jerry Tessendorf

August 2004 **ACM SIGGRAPH 2004 Course Notes SIGGRAPH '04**

Publisher: ACM Press

Full text available: [pdf\(17.65 MB\)](#) Additional Information: [full citation](#), [abstract](#)



This updated course on simulating natural phenomena will cover the latest research and production techniques for simulating most of the elements of nature. The presenters will provide movie production, interactive simulation, and research perspectives on the difficult task of photorealistic modeling, rendering, and animation of natural phenomena. The course offers a nice balance of the latest interactive graphics hardware-based simulation techniques and the latest physics-based simulation techni ...



3 [Level set and PDE methods for computer graphics](#)

David Breen, Ron Fedkiw, Ken Museth, Stanley Osher, Guillermo Sapiro, Ross Whitaker
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Publisher: ACM Press

Full text available: [pdf\(17.07 MB\)](#) Additional Information: [full citation](#), [abstract](#), [citations](#)



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partial differential equations to solve problems in computer graphics, geometric modeling and computer vision. This will include the structure and behavior of several different types of differential equations, e.g. the level set eq ...

4 Seeing, hearing, and touching: putting it all together

 Brian Fisher, Sidney Fels, Karon MacLean, Tamara Munzner, Ronald Rensink
August 2004 **ACM SIGGRAPH 2004 Course Notes SIGGRAPH '04**

Publisher: ACM Press

Full text available:  [pdf\(20.64 MB\)](#) Additional Information: [full citation](#)



5 Real-time shading

 Marc Olano, Kurt Akeley, John C. Hart, Wolfgang Heidrich, Michael McCool, Jason L. Mitchell, Randi Rost
August 2004 **ACM SIGGRAPH 2004 Course Notes SIGGRAPH '04**

Publisher: ACM Press

Full text available:  [pdf\(7.39 MB\)](#) Additional Information: [full citation](#), [abstract](#)



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6 Self

 David Ungar, Randall B. Smith
June 2007 **Proceedings of the third ACM SIGPLAN conference on History of programming languages HOPL III**

Publisher: ACM Press

Full text available:  [pdf\(1.70 MB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)



The years 1985 through 1995 saw the birth and development of the language Self, starting from its design by the authors at Xerox PARC, through first implementations by Ungar and his graduate students at Stanford University, and then with a larger team formed when the authors joined Sun Microsystems Laboratories in 1991. Self was designed to help programmers become more productive and creative by giving them a simple, pure, and powerful language, an implementation that combined ease of use wit ...

Keywords: Self, adaptive optimization, cartoon animation, dynamic language, dynamic optimization, exploratory programming, history of programming languages, morphic, object-oriented language, programming environment, prototype-based programming language, virtual machine

7 The theory of parsing, translation, and compiling

Alfred V. Aho, Jeffrey D. Ullman
January 1972 Book

Publisher: Prentice-Hall, Inc.

Full text available:  [pdf\(98.28 MB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)



From volume 1 Preface (See Front Matter for full Preface)

This book is intended for a one or two semester course in compiling theory at the senior or

graduate level. It is a theoretically oriented treatment of a practical subject. Our motivation for making it so is threefold.

(1) In an area as rapidly changing as Computer Science, sound pedagogy demands that courses emphasize ideas, rather than implementation details. It is our hope that the algorithms and concepts presen ...

8 Pen computing: a technology overview and a vision



André Meyer

July 1995 **ACM SIGCHI Bulletin**, Volume 27 Issue 3

Publisher: ACM Press

Full text available: [pdf\(5.14 MB\)](#) Additional Information: [full citation](#), [abstract](#), [citations](#), [index terms](#)

This work gives an overview of a new technology that is attracting growing interest in public as well as in the computer industry itself. The visible difference from other technologies is in the use of a pen or pencil as the primary means of interaction between a user and a machine, picking up the familiar pen and paper interface metaphor. From this follows a set of consequences that will be analyzed and put into context with other emerging technologies and visions. Starting with a short historic ...

9 Projectors: advanced graphics and vision techniques



Ramesh Raskar

August 2004 **ACM SIGGRAPH 2004 Course Notes SIGGRAPH '04**

Publisher: ACM Press

Full text available: [pdf\(6.53 MB\)](#) Additional Information: [full citation](#)



10 Crowd and group animation



Daniel Thalmann, Christophe Hery, Seth Lippman, Hiromi Ono, Stephen Regelous, Douglas Sutton

August 2004 **ACM SIGGRAPH 2004 Course Notes SIGGRAPH '04**

Publisher: ACM Press

Full text available: [pdf\(20.19 MB\)](#) Additional Information: [full citation](#), [abstract](#)

A continuous challenge for special effects in movies is the production of realistic virtual crowds, in terms of rendering and behavior. This course will present state-of-the-art techniques and methods. The course will explain in details the different approaches to create virtual crowds: particle systems with flocking techniques using attraction and repulsion forces, copy and pasting techniques, agent-based methods. The architecture of software tools will be presented including the MASSIVE softwa ...



11 Charles W. Bachman interview: September 25-26, 2004; Tucson, Arizona



Thomas Haigh

January 2006 **ACM Oral History interviews**

Publisher: ACM Press

Full text available: [pdf\(761.66 KB\)](#) Additional Information: [full citation](#), [abstract](#)



Charles W. Bachman reviews his career. Born during 1924 in Kansas, Bachman attended high school in East Lansing, Michigan before joining the Army Anti Aircraft Artillery Corp, with which he spent two years in the Southwest Pacific Theater, during World War II. After his discharge from the military, Bachman earned a B.Sc. in Mechanical Engineering in 1948, followed immediately by an M.Sc. in the same discipline, from the University of Pennsylvania. On graduation, he went to work for Do ...

The multics system: an examination of its structure

Elliott I. Organick

January 1972 Book

Publisher: MIT Press

Full text available:  pdf(23.94 MB)

Additional Information: [full citation](#), [abstract](#), [references](#), [cited by](#), [index terms](#)

This volume provides an overview of the Multics system developed at M.I.T.--a time-shared, general purpose utility like system with third-generation software. The advantage that this new system has over its predecessors lies in its expanded capacity to manipulate and file information on several levels and to police and control access to data in its various files. On the invitation of M.I.T.'s Project MAC, Elliott Organick developed over a period of years an explanation of the workings, concep ...

13 Compiler construction: an advanced course

F. L. Bauer, F. L. De Remer, M. Griffiths, U. Hill, J. J. Horning, C. H. A. Koster, W. M.

McKeeman, P. C. Poole, W. M. Waite, G. Goos, J. Hartmanis

January 1974 Book

Publisher: Springer-Verlag New York, Inc.

Full text available:  pdf(65.62 MB) Additional Information: [full citation](#), [abstract](#), [references](#), [cited by](#)

The Advanced Course took place from March 4 to 15, 1974 and was organized by the Mathematical Institute of the Technical University of Munich and the Leibniz Computing Center of the Bavarian Academy of Sciences, in co-operation with the European Communities, sponsored by the Ministry for Research and Technology of the Federal Republic of Germany and by the European Research Office, London.

14 Classics in software engineering

January 1979 Divisible Book

Publisher: Yourdon Press

Full text available:  pdf(22.45 MB) Additional Information: [full citation](#), [cited by](#), [index terms](#)

15 Collision detection and proximity queries

 Sunil Hadap, Dave Eberle, Pascal Volino, Ming C. Lin, Stephane Redon, Christer Ericson
August 2004 ACM SIGGRAPH 2004 Course Notes SIGGRAPH '04

Publisher: ACM Press

Full text available:  pdf(11.22 MB) Additional Information: [full citation](#), [abstract](#)

This course will primarily cover widely accepted and proved methodologies in collision detection. In addition more advanced or recent topics such as continuous collision detection, ADFs, and using graphics hardware will be introduced. When appropriate the methods discussed will be tied to familiar applications such as rigid body and cloth simulation, and will be compared. The course is a good overview for those developing applications in physically based modeling, VR, haptics, and robotics.

16 Smart Clothing Prototype for the Arctic Environment

J. Rantanen, J. Impiö, T. Karinsalo, M. Malmivaara, A. Reho, M. Tasanen, J. Vanhala
January 2002 **Personal and Ubiquitous Computing**, Volume 6 Issue 1

Publisher: Springer-Verlag

Full text available:  pdf(270.59 KB) Additional Information: [full citation](#), [abstract](#), [index terms](#)

Continuous miniaturisation of electronic components has made it possible to create smaller

and smaller electrical devices which can be worn and carried all the time. Together with developing fibre and textile technologies, this has enabled the creation of truly usable smart clothes that resemble clothes more than wearable computing equipment. These intelligent clothes are worn like ordinary clothing and provide help in various situations according to the application area. This paper describes th ...

17 [Interactive Editing Systems: Part II](#)

 Norman Meyrowitz, Andries van Dam
September 1982 **ACM Computing Surveys (CSUR)**, Volume 14 Issue 3

Publisher: ACM Press

Full text available:  [pdf\(9.17 MB\)](#) Additional Information: [full citation](#), [references](#), [citations](#), [index terms](#)



18 [The relational model for database management: version 2](#)

E. F. Codd
January 1990 Book

Publisher: Addison-Wesley Longman Publishing Co., Inc.

Full text available:  [pdf\(28.61 MB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#), [review](#)

From the Preface (See Front Matter for full Preface)

An important adjunct to precision is a sound theoretical foundation. The relational model is solidly based on two parts of mathematics: firstorder predicate logic and the theory of relations. This book, however, does not dwell on the theoretical foundations, but rather on all the features of the relational model that I now perceive as important for database users, and therefore for DBMS vendors. My perceptions result from 20 y ...

19 [Anatomy of LISP](#)

John Allen
January 1978 Book

Publisher: McGraw-Hill, Inc.

Additional Information: [full citation](#), [abstract](#), [references](#), [cited by](#), [index terms](#)

This text is nominally about LISP and data structures. However, in the process it covers much broader areas of computer science. The author has long felt that the beginning student of computer science has been getting' a distorted and disjointed picture of the field. In some ways this confusion is natural; the field has been growing at such a rapid rate that few are prepared to be judged experts in all areas of the discipline. The current alternative seems to be to give a few introductory cou ...

20 [Electronic Computers: A Historical Survey](#)

 Saul Rosen
March 1969 **ACM Computing Surveys (CSUR)**, Volume 1 Issue 1

Publisher: ACM Press

Full text available:  [pdf\(2.45 MB\)](#) Additional Information: [full citation](#), [references](#), [citations](#), [index terms](#)

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7 Fast detection of communication patterns in distributed executions

Thomas Kunz, Michiel F. H. Seuren

November 1997 **Proceedings of the 1997 conference of the Centre for Advanced Studies on Collaborative research CASCON '97**

Publisher: IBM Press

Full text available: [!\[\]\(c44c1590e4070d8cc0b28ab85cb00ddf_img.jpg\) pdf\(4.21 MB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

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8 Structured programming

January 1972 Divisible Book

Publisher: Academic Press Ltd.

Full text available: [!\[\]\(be6c423ea45b0b2f0cf48f01786576dc_img.jpg\) pdf\(11.44 MB\)](#) Additional Information: [full citation](#), [abstract](#), [cited by](#), [index terms](#)

In recent years there has been an increasing interest in the art of computer programming, the conceptual tools available for the design of programs, and the prevention of programming oversights and error. The initial outstanding contribution to our understanding of this subject was made by E. W. Dijkstra, whose Notes on Structured Programming form the first and major section of this book. They clearly expound the reflections of a brilliant programmer on the methods which he has hitherto uncon ...

9 **Energy-aware lossless data compression**



Kenneth C. Barr, Krste Asanović

August 2006 **ACM Transactions on Computer Systems (TOCS)**, Volume 24 Issue 3

Publisher: ACM Press

Full text available: [!\[\]\(ceb7cef9f9d693d102dfe501130037c6_img.jpg\) pdf\(873.90 KB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

Wireless transmission of a single bit can require over 1000 times more energy than a single computation. It can therefore be beneficial to perform additional computation to reduce the number of bits transmitted. If the energy required to compress data is less than the energy required to send it, there is a net energy savings and an increase in battery life for portable computers. This article presents a study of the energy savings possible by losslessly compressing data prior to transmission. A ...

Keywords: Compression, energy-aware, lossless, low-power, power-aware

10 **The elements of nature: interactive and realistic techniques**



Oliver Deussen, David S. Ebert, Ron Fedkiw, F. Kenton Musgrave, Przemyslaw Prusinkiewicz, Doug Roble, Jos Stam, Jerry Tessendorf

August 2004 **ACM SIGGRAPH 2004 Course Notes SIGGRAPH '04**

Publisher: ACM Press

Full text available: [!\[\]\(eb1074bfd91059c9cff57cf6b5c22a5b_img.jpg\) pdf\(17.65 MB\)](#) Additional Information: [full citation](#), [abstract](#)

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11 **Selected writings on computing: a personal perspective**

Edsger W. Dijkstra

January 1982 Book

Publisher: Springer-Verlag New York, Inc.

Full text available: [!\[\]\(276e638389c99b8d70cec5b1b95df546_img.jpg\) pdf\(60.98 MB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [cited by](#), [index terms](#)

Since the summer of 1973, when I became a Burroughs Research Fellow, my life has been very different from what it had been before. The daily routine changed: instead of going to the University each day, where I used to spend most of my time in the company of others, I now went there only one day a week and was most of the time that is, when not travelling!-- alone in my study. In my solitude, mail and the written word in general became more and more important. The circumstance that my employe ...

12 **Essays in computing science**

C. A. R. Hoare

January 1989 Book

Publisher: Prentice-Hall, Inc.

Full text available: [pdf\(20.91 MB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [cited by](#), [review](#)

Charles Antony Richard Hoare is one of the most productive and prolific computer scientists. This volume contains a selection of his published papers. There is a need, as in a Shakespearian Chorus, to offer some apology for what the book manifestly fails to achieve. It is not a complete 'collected works'. Selection between papers of this quality is not easy and, given the book's already considerable size, some difficult decisions as to what to omit have had to be made. Pity the editor weighin ...

13 User-centered interdisciplinary design of wearable computers

 Asim Smailagic, Dan Siewiorek

July 1999 **ACM SIGMOBILE Mobile Computing and Communications Review**, Volume 3 Issue 3

Publisher: ACM Press

Full text available: [pdf\(2.36 MB\)](#) Additional Information: [full citation](#), [citations](#), [index terms](#)

14 Level set and PDE methods for computer graphics

 David Breen, Ron Fedkiw, Ken Museth, Stanley Osher, Guillermo Sapiro, Ross Whitaker
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15 Link and channel measurement: A simple mechanism for capturing and replaying wireless channels

 Glenn Judd, Peter Steenkiste

August 2005 **Proceeding of the 2005 ACM SIGCOMM workshop on Experimental approaches to wireless network design and analysis E-WIND '05**

Publisher: ACM Press

Full text available: [pdf\(6.06 MB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

Physical layer wireless network emulation has the potential to be a powerful experimental tool. An important challenge in physical emulation, and traditional simulation, is to accurately model the wireless channel. In this paper we examine the possibility of using on-card signal strength measurements to capture wireless channel traces. A key advantage of this approach is the simplicity and ubiquity with which these measurements can be obtained since virtually all wireless devices provide the req ...

Keywords: channel capture, emulation, wireless

16 Real-time shading

 Marc Olano, Kurt Akeley, John C. Hart, Wolfgang Heidrich, Michael McCool, Jason L. Mitchell, Randi Rost

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Publisher: ACM Press

Full text available: [pdf\(7.39 MB\)](#) Additional Information: [full citation](#), [abstract](#)

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- 17 [An open-source CVE for programming education: a case study: An open-source CVE for programming education: a case study](#)

 Andrew M. Phelps, Christopher A. Egert, Kevin J. Bierre, David M. Parks
July 2005 **ACM SIGGRAPH 2005 Courses SIGGRAPH '05**

Publisher: ACM Press

Full text available:  [pdf\(7.92 MB\)](#) Additional Information: [full citation](#), [references](#)

- 18 [Applications & security policy: Detecting relay attacks with timing-based protocols](#)

 Jason Reid, Juan M. Gonzalez Nieto, Tee Tang, Bouchra Senadji
March 2007 **Proceedings of the 2nd ACM symposium on Information, computer and communications security ASIACCS '07**

Publisher: ACM Press

Full text available:  [pdf\(299.49 KB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#)

Distance-bounding protocols have been proposed as a means of detecting relay attacks, also known as *mafia fraud*. In this paper we present the first symmetric key based distance-bounding protocol that is also resistant to so-called terrorist fraud, a variant of mafia fraud. Distance-bounding protocols require a communication channel that can exchange single bits with extremely low latency. This unconventional communication requirement has prompted Hancke and Kuhn to assert in a recent publ ...

- 19 [Computation: finite and infinite machines](#)

Marvin L. Minsky
January 1967 Book

Publisher: Prentice-Hall, Inc.

Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

From the Preface (See Front Matter for full Preface)

Man has within a single generation found himself sharing the world with a strange new species: the computers and computer-like machines. Neither history, nor philosophy, nor common sense will tell us how these machines will affect us, for they do not do "work" as did machines of the Industrial Revolution. Instead of dealing with materials or energy, we are told that they handle "control" and "information" and even "intellectua ...

- 20 [Seeing, hearing, and touching: putting it all together](#)

 Brian Fisher, Sidney Fels, Karon MacLean, Tamara Munzner, Ronald Rensink
August 2004 **ACM SIGGRAPH 2004 Course Notes SIGGRAPH '04**

Publisher: ACM Press

Full text available:  [pdf\(20.64 MB\)](#) Additional Information: [full citation](#)